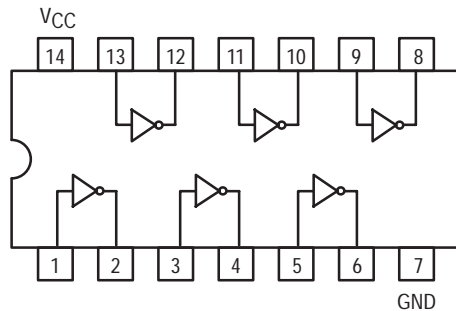




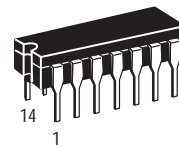
MOTOROLA

HEX INVERTER

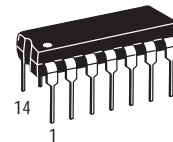


MC54/74F04

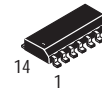
HEX INVERTER
FAST™ SCHOTTKY TTL



J SUFFIX
CERAMIC
CASE 632-08



N SUFFIX
PLASTIC
CASE 646-06



D SUFFIX
SOIC
CASE 751A-02

ORDERING INFORMATION

MC54FXXJ	Ceramic
MC74FXXN	Plastic
MC74FXXD	SOIC

GUARANTEED OPERATING RANGES

Symbol	Parameter		Min	Typ	Max	Unit
V _{CC}	Supply Voltage	54, 74	4.5	5.0	5.5	V
T _A	Operating Ambient Temperature Range	54	-55	25	125	°C
		74	0	25	70	
I _{OH}	Output Current — High	54, 74			-1.0	mA
I _{OL}	Output Current — Low	54, 74			20	mA

MC54/74F04

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter	Limits			Unit	Test Conditions	
		Min	Typ	Max			
V_{IH}	Input HIGH Voltage	2.0			V	Guaranteed Input HIGH Voltage	
V_{IL}	Input LOW Voltage			0.8	V	Guaranteed Input LOW Voltage	
V_{IK}	Input Clamp Diode Voltage			-1.2	V	$V_{CC} = \text{MIN}$, $I_{IN} = -18 \text{ mA}$	
V_{OH}	Output HIGH Voltage	54, 74	2.5		V	$I_{OH} = -1.0 \text{ mA}$	$V_{CC} = 4.50 \text{ V}$
		74	2.7		V	$I_{OH} = -1.0 \text{ mA}$	$V_{CC} = 4.75 \text{ V}$
V_{OL}	Output LOW Voltage			0.5	V	$I_{OL} = 20 \text{ mA}$	$V_{CC} = \text{MIN}$
I_{IH}	Input HIGH Current			20	μA	$V_{CC} = \text{MAX}$, $V_{IN} = 2.7 \text{ V}$	
				0.1	mA	$V_{CC} = \text{MAX}$, $V_{IN} = 7.0 \text{ V}$	
I_{IL}	Input LOW Current			-0.6	mA	$V_{CC} = \text{MAX}$, $V_{IN} = 0.5 \text{ V}$	
I_{OS}	Output Short Circuit Current (Note 2)	-60		-150	mA	$V_{CC} = \text{MAX}$, $V_{OUT} = 0 \text{ V}$	
I_{CC}	Power Supply Current Total, Output HIGH			4.2	mA	$V_{CC} = \text{MAX}$, $V_{IN} = \text{GND}$	
	Total, Output LOW			15.3	mA	$V_{CC} = \text{MAX}$, $V_{IN} = \text{Open}$	


NOTES:

- For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.
- Not more than one output should be shorted at a time, nor for more than 1 second.

AC CHARACTERISTICS

Symbol	Parameter	54/74F		54F		74F		Unit
		T _A = +25°C V _{CC} = +5.0 V C _L = 50 pF		T _A = −55°C to +125°C V _{CC} = 5.0 V ± 10% C _L = 50 pF		T _A = 0°C to 70°C V _{CC} = 5.0 V ± 10% C _L = 50 pF		
		Min	Max	Min	Max	Min	MAX	
tPLH	Propagation Delay	2.4	5.0	2.0	7.0	2.4	6.0	ns
tPHL	Propagation Delay	1.5	4.3	1.5	6.5	1.5	5.3	ns

Mfax is a trademark of Motorola, Inc.

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Motorola data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and  are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

How to reach us:

USA/EUROPE/Locations Not Listed: Motorola Literature Distribution; P.O. Box 5405, Denver, Colorado 80217.
1-303-675-2140 or 1-800-441-2447

JAPAN: Motorola Japan Ltd.; SPS, Technical Information Center, 3-20-1, Minami-Azabu, Minato-ku, Tokyo 106-8573 Japan.
81-3-3440-3569

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; Silicon Harbour Centre, 2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong. 852-26668334

Customer Focus Center: 1-800-521-6274

Mfax™: RMFAX0@email.sps.mot.com – TOUCHTONE 1-602-244-6609
Motorola Fax Back System – US & Canada ONLY 1-800-774-1848
– <http://sps.motorola.com/mfax/>

HOME PAGE: <http://motorola.com/sps/>



MOTOROLA

